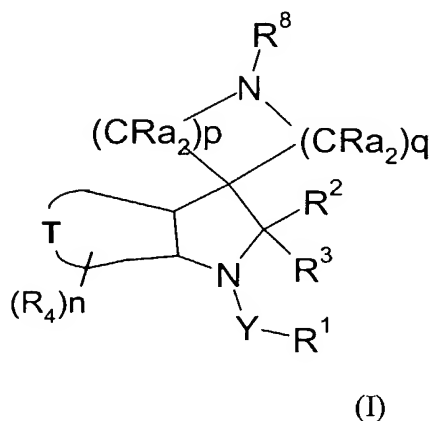


CLAIMS

1. A method of combating and controlling insects, acarines, nematodes or molluscs which comprises applying to a pest, to a locus of a pest, or to a plant susceptible to attack by a pest an insecticidally, acaricidally, nematocidally or molluscicidally effective amount of a compound of formula I.



wherein Y is a single bond, C=O, C=S or S(O)_m where m is 0, 1 or 2;

R¹ is hydrogen, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted alkylcarbonyl, aminocarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted heterocycloxy, cyano, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkenyl, formyl, optionally substituted heterocyclyl, optionally substituted alkylthio, NO or NR¹³R¹⁴ where R¹³ and R¹⁴ are independently hydrogen, COR¹⁵, optionally substituted alkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl or R¹³ and R¹⁴ together with the N atom to which they are attached form a group -N=C(R¹⁶)-NR¹⁷R¹⁸; R¹⁵ is H, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted aryloxy optionally substituted heteroaryl, optionally substituted heteroaryloxy or NR¹⁹R²⁰; R¹⁶, R¹⁷ and R¹⁸ are each independently H or lower alkyl;

R¹⁹ and R²⁰ are independently optionally substituted alkyl, optionally substituted aryl or optionally substituted heteroaryl;

R² and R³ are independently hydrogen, halogen, cyano, optionally substituted alkyl, optionally substituted alkoxy or optionally substituted aryl;

the ring



is a 5 or 6 membered heteroaromatic ring;

each R⁴ is independently halogen, nitro, cyano, optionally substituted C₁₋₈ alkyl, optionally substituted C₂₋₆ alkenyl, optionally substituted C₂₋₆ alkynyl, optionally

substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl,

optionally substituted C₃₋₇ cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy,

optionally substituted alkylthio or $R^{21}R^{22}N$ where R^{21} and R^{22} are, independently, hydrogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, C_{3-7} cycloalkyl(C_{1-4})alkyl, C_{2-6} haloalkyl, C_{1-6} alkoxy(C_{1-6})alkyl, C_{1-6} alkoxycarbonyl or R^{21} and R^{22} together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms

selected from O, N or S and which may be optionally substituted by one or two C₁₋₆ alkyl groups, or 2 adjacent groups R⁴ together with the carbon atoms to which they are attached form a 4, 5, 6, or 7 membered carbocyclic or heterocyclic ring which may be optionally substituted by halogen; n is 0, 1, 2 or 3;

each Ra is independently hydrogen, halogen, hydroxy, cyano, optionally substituted

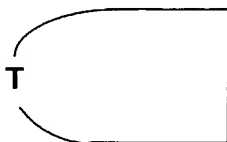
C₁₋₈ alkyl, optionally substituted C₂₋₆ alkenyl, optionally substituted C₂₋₆ alkynyl, optionally substituted alkoxy carbonyl, optionally substituted alkyl carbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted C₃₋₇ cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted

alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio, optionally substituted arylthio or $R^{23}R^{24}N$ where R^{23} and R^{24} are, independently, hydrogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, C_{3-7} cycloalkyl(C_{1-4})alkyl, C_{2-6} haloalkyl, C_{1-6} alkoxy(C_{1-6})alkyl, C_{1-6} alkoxycarbonyl or R^{23} and R^{24} together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C_{1-6} alkyl groups, or two R_a groups attached to the same carbon atom are $=O$ or two R_a groups attached to adjacent carbon atoms form a bond, or two R_a groups together with the carbon atom to which they are attached form a three- to seven-membered ring, that may be saturated or unsaturated, and that may contain one or two hetero atoms selected from the group consisting of N, O and S, and which may be optionally substituted by one or two C_{1-6} alkyl groups; or two R_a groups together form a group $-CH_2-$, $-CH=CH-$ or $-CH_2CH_2-$;

p is 0, 1, 2, 3, 4, 5 or 6; q is 0, 1, 2, 3, 4, 5 or 6 provided that $p+q$ is 1, 2, 3, 4, 5 or 6;

R^8 is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl or optionally substituted alkenylcarbonyl; or salts or N-oxides thereof.

2. A method according to claim 1 wherein the ring



is a 5 or 6 membered heteroaromatic ring wherein the ring members are each independently CH, S, N, NR⁴, O, or CR⁴ provided that at least one ring member is other than CH or CR⁴ and that there are no more than one O or S atoms present in the ring.

3. A method according to claim 1 or claim 2 wherein Y is a single bond or C=O.
4. A method according to any preceeding claim wherein R² and R³ are each independently hydrogen, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or cyano.
5. A method according to any preceeding claim wherein R¹ is hydrogen, C₁₋₆ alkyl, C₁₋₆ cyanoalkyl, C₁₋₆ haloalkyl, C₃₋₇ cycloalkyl(C₁₋₄)alkyl, C₁₋₆ alkoxy(C₁₋₆)alkyl, heteroaryl(C₁₋₆)alkyl (wherein the heteroaryl group may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkylsulfonyl, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylthio, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), aryl(C₁₋₆)alkyl (wherein the aryl group may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkylsulfonyl, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylthio, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the aryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), C₁₋₆ alkylcarbonylamino(C₁₋₆)alkyl, aryl (which may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkylsulfonyl, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylthio, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the aryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), heteroaryl (which may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkylsulfonyl, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylthio, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, phenoxy (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), heteroaryloxy (optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl,

C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), heterocycloxy (optionally substituted by halo, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), cyano, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₆ cycloalkyl, C₅₋₇ cycloalkenyl, heterocyclyl (optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), C₁₋₆ alkylthio, C₁₋₆ haloalkylthio or NR¹³R¹⁴ where R¹³ and R¹⁴ are independently hydrogen, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy(C₁₋₆)alkyl, phenyl (which may be optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino, dialkylamino or C₁₋₄ alkoxycarbonyl), phenyl (C₁₋₆)alkyl (wherein the phenyl group may be optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino, dialkylamino, C₁₋₆ alkylsulfonyl, C₁₋₆ alkoxycarbonyl, or two adjacent positions on the phenyl ring may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), heteroaryl (C₁₋₆)alkyl (wherein the heteroaryl group may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkylsulfonyl, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylthio, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen) or heteroaryl (which may be optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy, C₁₋₄ alkoxycarbonyl C₁₋₆ alkylcarbonylamino, phenyloxycarbonylamino (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), amino, C₁₋₆ alkylamino or phenylamino (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino)).

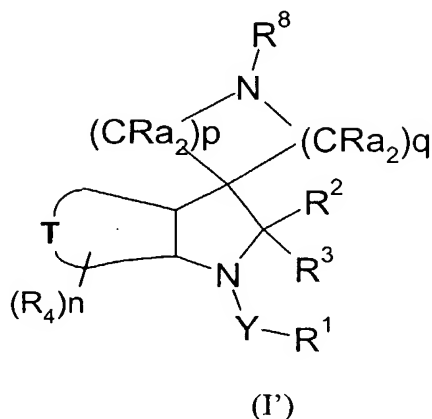
6. A method according to any preceding claim wherein each R⁴ is independently halogen, cyano, C₁₋₈ alkyl, C₁₋₈ haloalkyl, C₁₋₆ cyanoalkyl, C₁₋₆ alkoxy(C₁₋₆)alkyl, C₃₋₇ cycloalkyl(C₁₋₆)alkyl, C₅₋₆ cycloalkenyl(C₁₋₆)alkyl, C₃₋₆ alkenyloxy(C₁₋₆)alkyl, C₃₋₆ alkynyloxy(C₁₋₆)alkyl, aryloxy(C₁₋₆)alkyl, C₁₋₆ carboxyalkyl, C₁₋₆ alkylcarbonyl(C₁₋₆)alkyl, C₂₋₆ alkenylcarbonyl(C₁₋₆)alkyl, C₂₋₆ alkynylcarbonyl(C₁₋₆)alkyl, C₁₋₆

alkoxycarbonyl(C₁₋₆)alkyl, C₃₋₆ alkenyloxycarbonyl(C₁₋₆)alkyl, C₃₋₆ alkynyloxycarbonyl(C₁₋₆)alkyl, aryloxycarbonyl(C₁₋₆)alkyl, C₁₋₆ alkylthio(C₁₋₆)alkyl, C₁₋₆ alkylsulfinyl(C₁₋₆)alkyl, C₁₋₆ alkylsulfonyl(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, C₁₋₆ alkylaminocarbonyl(C₁₋₆)alkyl, di(C₁₋₆)alkylaminocarbonyl(C₁₋₆)alkyl, phenyl(C₁₋₄)alkyl (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), heteroaryl(C₁₋₄)alkyl (wherein the heteroaryl group is optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), heterocyclyl(C₁₋₄)alkyl (wherein the heterocyclyl group is optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), C₂₋₆ alkenyl, aminocarbonyl(C₂₋₆)alkenyl, C₁₋₆ alkylaminocarbonyl(C₂₋₆)alkenyl, di(C₁₋₆)alkylaminocarbonyl(C₂₋₆)alkenyl, phenyl(C₂₋₄)-alkenyl, (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), C₂₋₆ alkynyl, trimethylsilyl(C₂₋₆)alkynyl, aminocarbonyl(C₂₋₆)alkynyl, C₁₋₆ alkylaminocarbonyl(C₂₋₆)alkynyl, di(C₁₋₆)alkylaminocarbonyl(C₂₋₆)alkynyl, C₁₋₆ alkoxycarbonyl, C₃₋₇ cycloalkyl, C₃₋₇ halocycloalkyl, C₃₋₇ cyanocycloalkyl, C₁₋₃ alkyl(C₃₋₇)-cycloalkyl, C₁₋₃ alkyl(C₃₋₇)halocycloalkyl, phenyl (optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), heteroaryl (optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), heterocyclyl (wherein the heterocyclyl group is optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), or 2 adjacent groups R⁴ together with the carbon atoms to which they are attached form a 4, 5, 6 or 7 membered carbocyclic or heterocyclic ring which may be optionally substituted by halogen, C₁₋₈ alkoxy, C₁₋₆ haloalkoxy, phenoxy (optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), heteroaryloxy (optionally substituted by halo, nitro, cyano, C₁₋₆ alkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy or C₁₋₆ haloalkoxy), C₁₋₈ alkylthio or R¹⁹R²⁰N where R¹⁹ and R²⁰ are, independently, hydrogen, C₁₋₈ alkyl, C₃₋₇ cycloalkyl, C₃₋₆ alkenyl, C₃₋₆ alkynyl, C₂₋₆ haloalkyl, C₁₋₆ alkoxycarbonyl or R¹⁹ and R²⁰ together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two

further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C₁₋₆ alkyl groups; and n is 0, 1, 2 or 3.

7. A method according to any preceding claim wherein R⁸ is C₁₋₁₀ alkyl, C₁₋₁₀ haloalkyl, aryl(C₁₋₆)alkyl (wherein the aryl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), heteroaryl(C₁₋₆)alkyl (wherein the heteroaryl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), arylcarbonyl-(C₁₋₆)alkyl (wherein the aryl group may be optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino and the alkyl group may be optionally substituted by aryl), C₂₋₈ alkenyl, C₂₋₈ haloalkenyl, aryl(C₂₋₆)-alkenyl (wherein the aryl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino, C₁₋₆ alkoxycarbonyl, or two adjacent substituents can cyclise to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring), heteroaryl(C₂₋₆)-alkenyl (wherein the heteroaryl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino, C₁₋₆ alkoxycarbonyl, or two adjacent substituents can cyclise to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring), C₂₋₆ alkynyl, phenyl(C₂₋₆)alkynyl (wherein the phenyl group is optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), C₃₋₇ cycloalkyl, C₁₋₆ alkoxycarbonyl, C₁₋₆ alkylcarbonyl, C₁₋₆ haloalkylcarbonyl or aryl(C₂₋₆)alkenylcarbonyl (wherein the aryl group may be optionally substituted by halogen, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, CN, NO₂, aryl, heteroaryl, amino or dialkylamino), or -C(R⁵¹)(R⁵²)-[CR⁵³=CR⁵⁴]_z-R⁵⁵ where z is 1 or 2, R⁵¹ and R⁵² are each independently H, halo or C₁₋₂ alkyl, R⁵³ and R⁵⁴ are each independently H, halogen, C₁₋₄ alkyl or C₁₋₄ haloalkyl and R⁵⁵ is optionally substituted aryl or optionally substituted heteroaryl.
8. A method according to any preceding claim wherein each R_a is hydrogen.

9. A method according to any preceeding claim wherein p is 1 or 2 and q is 2 or 3.
10. A compound of formula I'



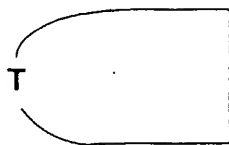
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wherein Y is C=O, C=S;

- R¹ is hydrogen, optionally substituted alkyl, optionally substituted alkoxy carbonyl, optionally substituted alkyl carbonyl, aminocarbonyl, optionally substituted alkyl aminocarbonyl, optionally substituted dialkyl aminocarbonyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted heterocyclyloxy, cyano, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkenyl, formyl, optionally substituted heterocyclyl, optionally substituted alkylthio, NO or NR¹³R¹⁴ where R¹³ and R¹⁴ are independently hydrogen, COR¹⁵, optionally substituted alkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl or R¹³ and R¹⁴ together with the N atom to which they are attached form a group -N=C(R¹⁶)-NR¹⁷R¹⁸; R¹⁵ is H, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted aryloxy optionally substituted heteroaryl, optionally substituted heteroaryloxy or NR¹⁹R²⁰; R¹⁶, R¹⁷ and R¹⁸ are each independently H or lower alkyl; R¹⁹ and R²⁰ are independently optionally substituted alkyl, optionally substituted aryl or optionally substituted heteroaryl;
- R² and R³ are independently hydrogen, halogen, cyano, optionally substituted alkyl, optionally substituted alkoxy or optionally substituted aryl;

25

the ring



is a 5 or 6 membered heteroaromatic ring;

each R^4 is independently halogen, nitro, cyano, optionally substituted C_{1-8} alkyl, optionally substituted C_{2-6} alkenyl, optionally substituted C_{2-6} alkynyl, optionally substituted alkoxy carbonyl, optionally substituted alkyl carbonyl, optionally substituted alkyl aminocarbonyl, optionally substituted dialkyl aminocarbonyl,

optionally substituted C_{3-7} cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted

alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio or $R^{21}R^{22}N$ where R^{21} and R^{22} are, independently, hydrogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, C_{3-7} cycloalkyl(C_{1-4})alkyl, C_{2-6} haloalkyl, C_{1-6} alkoxy(C_{1-6})alkyl, C_{1-6} alkoxy carbonyl or R^{21} and R^{22} together with the N atom to which they are attached form a five, six or seven-

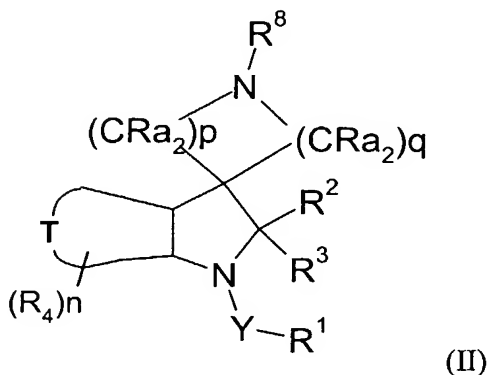
membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C_{1-6} alkyl groups, or 2 adjacent groups R^4 together with the carbon atoms to which they are attached form a 4, 5, 6, or 7 membered carbocyclic or heterocyclic ring which may be optionally substituted by halogen; n is 0, 1, 2 or 3;

each R_a is independently hydrogen, halogen, hydroxy, cyano, optionally substituted C_{1-8} alkyl, optionally substituted C_{2-6} alkenyl, optionally substituted C_{2-6} alkynyl, optionally substituted alkoxy carbonyl, optionally substituted alkyl carbonyl, optionally substituted alkyl aminocarbonyl, optionally substituted dialkyl aminocarbonyl, optionally substituted C_{3-7} cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio, optionally substituted arylthio or $R^{23}R^{24}N$ where R^{23} and R^{24} are, independently, hydrogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, C_{3-7} cycloalkyl(C_{1-4})alkyl, C_{2-6} haloalkyl, C_{1-6} alkoxy(C_{1-6})alkyl, C_{1-6}

alkoxycarbonyl or R^{23} and R^{24} together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C_{1-6} alkyl groups, or two R_a groups attached to the same carbon atom are =O or two R_a groups attached to adjacent carbon atoms form a bond, or two R_a groups together with the carbon atom to which they are attached form a three- to seven-membered ring, that may be saturated or unsaturated, and that may contain one or two hetero atoms selected from the group consisting of N, O and S, and which may be optionally substituted by one or two C_{1-6} alkyl groups; or two R_a groups together form a group $-CH_2-$, $-CH=CH-$ or $-CH_2CH_2-$;

p is 0, 1, 2, 3, 4, 5 or 6; q is 0, 1, 2, 3, 4, 5 or 6 provided that p+q is 1, 2, 3, 4, 5 or 6; R^8 is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted alkoxy, optionally substituted alkylcarbonyl or optionally substituted alkenylcarbonyl; or salts or N-oxides thereof.

11. A compound of formula II



wherein R^8 is H or *tert*-butoxycarbonyl and n, p, q, R^1 , R^2 , R^3 , R^4 and R_a are as defined in claim 10.

12. An insecticidal acaricidal and nematocidal composition comprising an insecticidally, acaricidally or nematocidally effective amount of a compound of formula I as defined in claim 1.